Moosehead Manufacturing Company	**)**	**Departmental**
Piscataquis County	**)**	**Findings of Fact and Order**
Monson, Maine	**)**	**Air Emission License**
A-339-71-G-N	**)**	**After-the-Fact**

After review of the air emissions license application, staff investigation reports and other documents in the applicant's file in the Bureau of Air Quality, pursuant to 38 M.R.S.A., Section 344 and Section 590, the Department finds the following facts:

I. REGISTRATION

A. Introduction:

Moosehead Manufacturing Company (Moosehead Manufacturing) has applied to renew the lapsed Air Emission License for their Monson wood furniture manufacturing facility.

The previous license included emission rates for PM from the wood fired boiler based on AP-42 factors. Since the boiler is larger than 3 MMBtu/hr it is subject to MEDEP Chapter 103 for particulate emission standards from fuel burning equipment. PM emission limits in this license have been corrected and are calculated according to MEDEP Chapter 103.

B. Emission Equipment:

Moosehead Manufacturing is authorized to operate the following equipment:

Fuel Burning Equipment

Equipment	Maximum Capacity (MMBtu/hr)	Maximum Firing Rate (lb/hr)	Fuel Type	Post Combustion Control Equipment	Stack #
Boiler #1	11.7	2340 (4995 Btu/lb)*	Wood	Overfire Air	1

*based on wood with a moisture content of 45%.

Process Equipment

Equipment	Maximum Spray Rate	Control Device	Emission Controlled
Toner Booth	46 lb/hr	HVLP spray guns	VOC, HAPs
		paper filters	PM
Stain Booth	35 lb/hr	HVLP spray gun	VOC, HAPs
		paper filters	PM
Sealer Booth	38 lb/hr	Compliant coatings	VOC, HAPs
		paper filters	PM
Lacquer Booth 1	54 lb/hr	Compliant coatings	VOC, HAPs
		paper filters	PM
Lacquer Booth 2	54 lb/hr	Compliant coatings	VOC, HAPs
		paper filters	PM
Oven 1	N/A		

C. Application Classification:

The previous air emission license for Moosehead Manufacturing expired on August 23, 2001. A complete application was not submitted on time, therefore Moosehead Manufacturing is considered to be an existing source applying for an after-the-fact renewal. The Department has determined the facility is a minor source and the application has been processed through Chapter 115 of the Department's regulations.

II. BEST PRACTICAL TREATMENT (BPT)

A. Introduction:

In order to receive a license the applicant must control emissions from each unit to a level considered by the Department to represent Best Practical Treatment (BPT), as defined in Chapter 100 of the Air Regulations. BPT for an after-the-fact renewal requires an analysis similar to a Best Available Control Technology (BACT) analysis per Chapter 115 of the Department's regulations. Separate control requirement categories exist for new and existing equipment as well as for those sources located in designated non-attainment areas.

Process Description

Moosehead Manufacturing produces hand-crafted hardwood furniture. Each unit undergoes the same basic steps of sawing and sanding, gluing, assembly and finish coating.

Lumber from the kilns is cut into board length. The boards then go through a two sided planer. A line saw is used to cut the boards into smaller sizes and to saw defects out of the wood. The wood pieces are graded and separated to be used as exterior or interior pieces. Water based glue and a glue press are used to form large panels from smaller pieces of wood.

The different types of furniture parts are formed with planers, sanders and specialized cutting machines. After the furniture units are assembled they are sent to the finishing area.

Moosehead Manufacturing operates five coating stations and one drying oven. The furniture finishing process begins with the furniture being placed on a conveyor which travels past spray booths and other finishing processes with specific drying times between steps. Total time for one cycle is approximately 4.5 hours. The items are first sprayed with toner, then with one of three colors of stain (with high volume-low pressure guns), pass through a 130 °F oven, are sealed, and pass through the oven again. They are then hand sanded and a lacquer top coat is applied and cured in a 110 °F oven. Cherry finishes receive a second coat of lacquer and pass through the 110 °F oven a second time. Moosehead Manufacturing also has dip tanks which are used instead of spray staining for some furniture pieces. Certain pieces are also painted instead of stained. After it is finished, the furniture is boxed and shipped.

B. Boiler #1:

Boiler #1 was manufactured in the 1950's and has a maximum heat input capacity of 11.7 MMBtu/hr, firing wood and a small amount of lacquer particles. The lacquer particles are captured by the filters in the lacquer area and collected when the filters are cleaned. These are mixed in the wood fuel bin and burned in the boiler. Testing has revealed that because of estimated firebox temperature and the relatively small amount of lacquer particles being fired in the boiler, Moosehead Manufacturing may burn the overspray residue in boiler #1. Moosehead Manufacturing shall not burn chlorinated material in the boiler.

Boiler #1 is not subject to EPA New Source Performance Standards (NSPS) Subpart Dc for boilers with a heat input of 10 MMBtu/hr or greater and manufactured after June 9, 1989.

BPT for Boiler #1 is the following:

1. SO_2, NOx, CO and VOC lb/MMBtu emission limits based on AP-42 data dated 7/01 for wet-wood fired boilers.

2. A PM lb/MMBtu emission limit for wood fired boilers regulated by MEDEP Chapter 103 and a PM_{10} lb/MMBtu emission limit based on the PM limit.
3. Opacity from boiler #1 (stack 1) shall not exceed 30% on a 6-minute block average, except for no more than 2 six-minute block averages in a 3-hour period.

C. Process Equipment Emissions:

Moosehead Manufacturing operates five coating stations and one drying oven, which each vent from separate stacks, as well as maintenance and assembly areas. BPT for the process equipment focuses on the furniture finishing emissions, which are the main contributors of VOC emissions. Moosehead Manufacturing, with a licensed limit of 40 tons/year of VOC, is also subject to EPA's Control Technology Guideline (CTG) for Wood Furniture Manufacturing sources with a potential to emit threshold of 25 tons/year or more of VOC. The Wood Furniture CTG includes control technologies and work practice standards for the wood furniture manufacturing sector.

A few of the VOCs in the coating materials are also classified as hazardous air pollutants (HAPs). In conjunction with the 40 tons/year VOC emission limit, Moosehead Manufacturing shall be limited to 9.9 tons/year of any one HAP or 25 tons/year total of all HAPs, based on a 12 month rolling total.

1. CTG Technologies

   The technologies addressed in the Wood Furniture CTG are (1) waterborne topcoats, or (2) higher-solids sealers and topcoats. The VOC content limits for each type of coating are listed in the table found in Condition 17(B)(i).

2. CTG Work Practice Standards

   Work practice standards established in the CTG concern finishing operations (including transfer equipment leaks, storage containers and application equipment), cleaning operations, and operator training.

   CTG Work Practice Standards

   (A) Finishing Operations

   (i) Transfer equipment leaks

   Moosehead Manufacturing shall maintain a written inspection and maintenance plan to address and prevent leaks. The plan must specify a monthly schedule for all equipment. Repairs to leaking equipment must be made within 15 days or as soon as possible if replacement equipment must be ordered.

(ii) Storage Containers, including mixing equipment

Moosehead Manufacturing shall continue to keep storage containers, including pressure pots, used solvent, dip tanks, and any container holding VOC or VOC-containing material covered when the containers are not in use.

(iii) Application Equipment

Moosehead Manufacturing has discontinued the use of conventional air spray guns in the toner and stain areas, as required by the CTG. HVLP guns are now used in these area.

(B) Cleaning Operations

(i) Gun/Line Cleaning

- Moosehead Manufacturing Collect cleaning solvent into a closed container.
- Moosehead Manufacturing shall continue to cover all containers associated with cleaning when the containers are not in use.

(ii) Spray Booth Cleaning

- Moosehead Manufacturing shall use strippable spray booth coating with a VOC content of no greater than 0.8 lb VOC/lb solids.
- Moosehead Manufacturing does not use solvents unless cleaning conveyors or metal filters, or refurbishing the spray booth.

(iii) Washoff Tanks*/General Cleaning

(*Washoff operations means those operations in which organic solvent is used to remove coating from a substrate. At this time, Moosehead Manufacturing does not use washoff tanks.)

- Washoff tanks shall be covered when not in use.
- Dragout shall be minimized by tilting and/or rotating the part to drain as much solvent as possible and allowing sufficient dry time.
- A log of the quantity and type of solvent used for washoff and cleaning, as well as the quantity of waste solvent shipped offsite, and the fate of this waste (recycling or disposal) shall be maintained.
- A log of the number of pieces washed off, and the reason for the washoff shall be maintained.

(C) Miscellaneous

(i) Operator Training

All operators shall be trained on proper application, cleanup and equipment use. A copy of the training program shall be retained onsite.

(ii) Implementation Plan

The facility maintains a CTG work practice standards implementation plan on-site.

Moosehead Manufacturing shall meet the requirements of the CTG by:

1. using compliant topcoats and sealers;
2. continuing to use HVLP spray guns; and
3. following the CTG work practice standards.

BACT for the Process Equipment is the following:

1. A VOC emission limit of 40 tons/year;
2. A HAP emission limit of 9.9 tons/year of any single HAP or 24.9 tons/year total HAPs, based on a 12 month rolling total;
3. The use of high solid coatings (the VOC limits are listed in the table found Condition 17(B)(i));
4. The use of high volume-low pressure (HVLP) spray guns for coating application; and
5. VOC recordkeeping requirements.
6. Visible emissions from the process equipment shall not exceed an opacity of 20% per stack on a 6-minute block average basis, except for no more than 1 six-minute block average in a 1-hour period.

D. Wood Waste Handling and Transfer System

The wood waste handling system includes the collection and transfer of wood waste from the sawing, milling, sanding and planing operations within the facility. BPT for this system shall be the use of a cyclone to control PM emissions such that they do not exceed 10% opacity on a six minutes block average basis.

E. Stockpiles and Roadways

BACT for the control of fugitive PM emission requires that all potential sources of fugitive PM emissions including unpaved roadways and material stockpiles are maintained with water, calcium chloride, or other acceptable materials so as to prevent visible emissions in excess of 10% opacity on a 3 minute block average basis.

F. Annual Emission Restrictions:

The annual facility limits for Moosehead Manufacturing were calculated based on the 40 tons/year process VOC limit and continuous operation of Boiler #1. Moosehead Manufacturing shall not exceed the following limits on a 12-month rolling total basis:

Total Allowable Annual Emission for the Facility
(used to calculate the annual license fee)

Pollutant	Tons/year
PM	15.37
PM_{10}	15.37
SO_2	1.28
NOx	11.27
CO	30.75
VOC	41.95*

*HAP emissions shall not exceed 9.9 tons/year for any single HAP or 24.9 tons/yr total HAP.

III. AMBIENT AIR QUALITY ANALYSIS

According to the Maine Regulations Chapter 115, the level of air quality analyses required for an after-the-fact renewal shall be determined on a case-by case basis. Based on the information available in the file, and the similarity to existing sources, Maine Ambient Air Quality Standards (MAAQS) will not be violated by this source.

ORDER

Based on the above Findings and subject to conditions listed below, the Department concludes that the emissions from this source:

- will receive Best Practical Treatment,
- will not violate applicable emission standards,
- will not violate applicable ambient air quality standards in conjunction with emissions from other sources.

The Department hereby grants Air Emission License A-339-71-G-N subject to the following conditions:

STANDARD CONDITIONS

(1) Employees and authorized representatives of the Department shall be allowed access to the licensee's premises during business hours, or any time during which any emissions units are in operation, and at such other times as the Department

deems necessary for the purpose of performing tests, collecting samples, conducting inspections, or examining and copying records relating to emissions (Title 38 MRSA §347-C).

(2) The licensee shall acquire a new or amended air emission license prior to commencing construction of a modification, unless specifically provided for in Chapter 115.

(3) Approval to construct shall become invalid if the source has not commenced construction within eighteen (18) months after receipt of such approval or if construction is discontinued for a period of eighteen (18) months or more. The Department may extend this time period upon a satisfactory showing that an extension is justified, but may condition such extension upon a review of either the control technology analysis or the ambient air quality standards analysis, or both.

(4) The licensee shall establish and maintain a continuing program of best management practices for suppression of fugitive particulate matter during any period of construction, reconstruction, or operation which may result in fugitive dust, and shall submit a description of the program to the Department upon request.

(5) The licensee shall pay the annual air emission license fee to the Department, calculated pursuant to Title 38 M.R.S.A. §353.

(6) The license does not convey any property rights of any sort, or any exclusive privilege.

(7) The licensee shall maintain and operate all emission units and air pollution systems required by the air emission license in a manner consistent with good air pollution control practice for minimizing emissions.

(8) The licensee shall maintain sufficient records to accurately document compliance with emission standards and license conditions and shall maintain such records for a minimum of six (6) years. The records shall be submitted to the Department upon written request.

(9) The licensee shall comply with all terms and conditions of the air emission license. The filing of an appeal by the licensee, the notification of planned changes or anticipated noncompliance by the licensee, or the filing of an application by the licensee for a renewal of a license or amendment shall not stay any condition of the license.

(10) The licensee may not use as a defense in an enforcement action that the disruption, cessation, or reduction of licensed operations would have been necessary in order to maintain compliance with the conditions of the air emission license.

(11) In accordance with the Department's air emission compliance test protocol and 40 CFR Part 60 or other method approved or required by the Department, the licensee shall:

(A) perform stack testing to demonstrate compliance with the applicable emission standards under circumstances representative of the facility's normal process and operating conditions:

(i) within sixty (60) calendar days of receipt of a notification to test from the Department or EPA, if visible emissions, equipment operating parameters, staff inspection, air monitoring or other cause indicate to the Department that equipment may be operating out of compliance with emission standards or license conditions; or

(ii) pursuant to any other requirement of this license to perform stack testing.

(B) install or make provisions to install test ports that meet the criteria of 40 CFR Part 60, Appendix A, and test platforms, if necessary, and other accommodations necessary to allow emission testing; and

(C) submit a written report to the Department within thirty (30) days from date of test completion.

(12) If the results of a stack test performed under circumstances representative of the facility's normal process and operating conditions indicate emissions in excess of the applicable standards, then:

(A) within thirty (30) days following receipt of such test results, the licensee shall re-test the non-complying emission source under circumstances representative of the facility's normal process and operating conditions and in accordance with the Department's air emission compliance test protocol and 40 CFR Part 60 or other method approved or required by the Department; and

(B) the days of violation shall be presumed to include the date of stack test and each and every day of operation thereafter until compliance is demonstrated under normal and representative process and operating conditions, except to the extent that the facility can prove to the satisfaction of the Department that there were intervening days during which no violation occurred or that the violation was not continuing in nature; and

(C) the licensee may, upon the approval of the Department following the successful demonstration of compliance at alternative load conditions, operate under such alternative load conditions on an interim basis prior to

a demonstration of compliance under normal and representative process and operating conditions.

(13) Notwithstanding any other provisions in the State Implementation Plan approved by the EPA or Section 114(a) of the CAA, any credible evidence may be used for the purpose of establishing whether a person has violated or is in violation of any statute, regulation, or Part 70 license requirement.

(14) The licensee shall maintain records of malfunctions, failures, downtime, and any other similar change in operation of air pollution control systems or the emissions unit itself that would affect emission and that is not consistent with the terms and conditions of the air emission license. The licensee shall notify the Department within two (2) days or the next state working day, whichever is later, of such occasions where such changes result in an increase of emissions. The licensee shall report all excess emissions in the units of the applicable emission limitation.

(15) Upon written request from the Department, the licensee shall establish and maintain such records, make such reports, install, use and maintain such monitoring equipment, sample such emissions (in accordance with such methods, at such locations, at such intervals, and in such a manner as the Department shall prescribe), and provide other information as the Department may reasonably require to determine the licensee's compliance status.

SPECIFIC CONDITIONS

(16) Boiler #1

(A) Emissions from Boiler #1 shall not exceed the following:

Boiler #1 Emission Limits

	lb/MMBtu	lb/hr
PM	0.3	3.51
PM_{10}	0.3	3.51
SO_2	N/A	1.28
NOx	N/A	2.57
CO	N/A	7.02
VOC	N/A	0.44

(B) Moosehead Manufacturing may add spraybooth overspray residue to the wood waste in the fuel bins prior to the wood being burned in the boiler. Any material containing chlorinated hydrocarbons shall not be burned in the wood fired boiler. Moosehead Manufacturing shall maintain fuel use records on a monthly basis in addition to the 12 month rolling total.

(C) Visible emissions from boiler #1 shall not exceed 30% opacity on a 6 minute block average, except for no more than 2 six-minute block averages in a 3 hour period.

(17) Coating Process Equipment Emissions (VOC and HAPs)

(A) VOC Emission Limit

(i) Process VOC emissions from Moosehead Manufacturing shall not exceed 40 tons/year, based on a 12 month rolling total.

(ii) Moosehead Manufacturing shall maintain a daily usage log for VOC containing material. Records shall include the formulation ID, the amount of gallons applied per day, the pounds of VOC per gallon of formulation applied, and the pounds of VOC per day. Monthly records of VOC emissions and the 12 month rolling total shall be maintained. These records shall be kept on site for a period of six years and shall be made available to the Department upon request.

(B) VOC Content of Coating

(i) Moosehead Manufacturing shall use topcoats and sealers which do not exceed the following VOC content:

Maximum Allowable VOC Content by Coating Type

Coating Type	Allowable VOC Content (lb VOC/lb solids, as applied)
Acid-cured alkyd amino vinyl sealers	2.3
All other sealers	1.9
Acid-cured alkyd amino conversion varnish topcoats	2.0
All other topcoats	1.8

(ii) Moosehead Manufacturing shall maintain records of certified product data sheets for the coatings to demonstrate that they are compliant. If the data sheets provided by the coating supplier identify the VOC content in lb VOC/lb solids and the facility then dilutes the coating, the facility must account for this dilution and report the VOC content of the coating that is actually applied, and not the VOC content of the coating as purchased.

(iii) Moosehead Manufacturing shall report on a semiannual basis whether or not compliant coatings have been used at all times during the reporting period. These reports are due January 31 and July 31 or each year. The report shall be sent to the facility's inspector at the Department of Environmental Protection, Bureau of Air Quality, Eastern Maine Regional Office, 106 Hogan Road, Bangor, ME 04401.

(C) CTG Work Practice Standards

(i) Moosehead Manufacturing shall continue to implement a written inspection and maintenance plan to address and prevent transfer equipment leaks. The inspection plan must identify a minimum inspection frequency of one per month and procedures for addressing malfunctions. The facility shall repair leaking equipment in 15 days unless replacement equipment has to be ordered in which case repairs must be completed within three months.

(ii) Storage containers, including mixing equipment, used for VOC or VOC-containing material must be kept covered when not in use.

(iii) High volume-low pressure spray guns shall continue to be used in the toner and stain steps. Conventional air spray guns shall not be used for applying finishing materials except under the following circumstances:

(a) to apply finishing materials that have a VOC content no greater than 1 lb VOC/lb solids, as applied;

(b) for touch-up and repair under the following circumstances:

- the finishing materials are applied after completion of the finishing operation, or
- the finishing materials are applied after the stain and before any other type of finishing material is applied, and the finishing materials are applied from a container that has a volume of no more than 2.0 gallons;

(c) if spray is automated, that is, the spray gun is aimed and triggered automatically, not manually;

(d) if emissions from the finishing application station are directed to a control device;

(e) the conventional air gun is used to apply finishing materials and the cumulative total usage of that finishing material is no more than 5.0 percent of the total gallons of finishing material used during that semiannual reporting period;

(f) the conventional air gun is used to apply stain of a part for which it is technically or economically infeasible to use any other spray application technology. The source shall demonstrate technical or economic unfeasibility by submitting a videotape, technical report, or other supporting documentation to the Department and EPA.

(iv) When cleaning lines or spray guns, the cleaning solvent shall be collected into a closed container. All containers associated with cleaning shall be covered when not in use.

(v) Compounds containing more than 8.0 percent by weight VOC shall not be used for cleaning spray booth components other than

conveyors, continuous coaters and their enclosures, and/or metal filters, unless the spray booth is being refurbished. If the spray booth is being refurbished, that is, the spray booth coating or other material used to cover the booth is being replaced, the affected source shall use no more than 1.0 gallon of organic solvent to prepare the booth prior to applying the booth coating. A strippable booth coating shall contain no more than 0.8 lb VOC/lb solids, as applied.

(vi) For washoff tanks and general cleaning: the washoff tanks shall be covered when not in use; dragout shall be minimized by tilting and/or rotating part to drain as much solvent as possible and allowing sufficient dry time; a log shall be maintained with the quantity and type of solvent used for washoff and cleaning, as well as the quantity of waste solvent shipped offsite, and the fate of this waste (recycling or disposal); and a log shall be maintained with the number of pieces washed off, and the reason for the washoff. Washoff operations means those operations in which organic solvent is used to remove coating from a substrate. Currently, Moosehead Manufacturing does not have washoff tanks.

(vii) All operators shall be trained on proper application, cleanup and equipment use. A written training program shall be retained onsite.

(viii) The implementation of the work practice standards shall continue according to Moosehead Manufacturing's written plan, which shall be maintained onsite.

(D) HAP Emission Limits

(i) HAP emissions from Moosehead Manufacturing shall not exceed 9.9 tons/year of any single HAP or 24.9 tons/year total HAPs, based on a 12 month rolling total.

(ii) Moosehead Manufacturing shall maintain a daily usage log for HAP containing materials. Records shall include the formulation IDs, the amount of gallons applied per day, the pounds of HAP per gallon of formulation as applied, and the pounds of HAP per day. The larger HAP emitters shall be singled out and recorded separately and the remaining HAPs may be grouped together as long as records demonstrate compliance with the above HAP limits. Monthly records of HAP emissions and the 12 month rolling total shall be maintained. These records shall be kept on site for a period of six years and shall be made available to the Department upon request.

(E) Visible emissions from the coating process equipment shall not exceed an opacity of 20% per stack on a 6-minute block average basis, except for no more than 1 six- minute block average in a 1-hour period.

(18) Wood Waste Handling and Transfer System

(A) The wood waste handling and transfer system shall be controlled with a cyclone. A record shall be maintained of maintenance and malfunctions of the wood waste handling and transfer system and the cyclone.

(B) Visible emissions from the wood waste handling and transfer system shall not exceed 10% opacity on a six minute block average basis.

(19) Stockpiles and Roadways

BPT for the control of fugitive PM emissions requires that all potential sources of fugitive PM emissions including unpaved roadways and material stockpiles are maintained with water, calcium chloride, or other acceptable material so as to prevent visible emissions in excess of 10% opacity, based on a 3 minute block average.

(20) Moosehead Manufacturing shall pay the annual air emission license fee within 30 days of June 30 of each year. Pursuant to 38 MRSA §353-A, failure to pay this annual fee in the stated timeframe is sufficient grounds for revocation of the license under 38 MRSA §341-D, subsection 3.

(21) Reporting

(A) Annual Emission Statement

In accordance with MEDEP Chapter 137, the licensee shall annually report to the Department by September 1, the information necessary to accurately update the State's emission inventory by means of:

(i) A computer program and accompanying instructions supplied by the Department; or

(ii) A written emission statement containing the information required in MEDEP Chapter 137.

Reports and questions should be directed to:

Attn: Criteria Emission Inventory Coordinator
Maine DEP
Bureau of Air Quality
17 State House Station
Augusta, ME 04333-0017

Phone: (207) 287-2437

(B) Toxic Air Pollutants Emission Statement

In accordance with MEDEP Chapter 137, the licensee shall report, no later than September 1, every two years (1996,1998,etc.) or in a timeframe designated to the Department, the information necessary to accurately update the State's toxic air pollutants emission inventory by means of a written emission statement containing the information required in MEDEP Chapter 137.

Reports and questions on the Air Toxics emissions inventory portion should be directed to:

Attn: Toxics Inventory Coordinator
Maine DEP
Bureau of Air Quality
17 State House Station
Augusta, ME 04333-0017

Phone: (207) 287-2437

(22) The term of this Order shall be for five (5) years from the signature below.

DONE AND DATED IN AUGUSTA, MAINE THIS DAY OF 2002.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY:_____
MARTHA G. KIRKPATRICK, COMMISSIONER

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: October 31, 2001
Date of application acceptance: March 20, 2002

Date filed with the Board of Environmental Protection: _____
This Order prepared by Rachel E. Pilling, Bureau of Air Quality